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DERWENT-WEEK: 200308

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TITLE: Vertical nano-size mram using carbon
nanotubes and
manufacturing method thereof

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE
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KR 2002060331 A 001	July 18, 2002 H01L 027/10	N/A

APPLICATION-DATA:

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INT-CL (IPC): H01L027/10

ABSTRACTED-PUB-NO: KR2002060331A

BASIC-ABSTRACT:

NOVELTY - A vertical nano-size MRAM(Magnetic RAM) using the carbon nanotubes and a manufacturing method thereof are provided to limit the electron by using the carbon nanotube as a quantum dot and to realize the low electricity driving and the super slim and capacity of a terra bit class.

DETAILED DESCRIPTION - The source electrodes(40) are formed on a semiconductor substrate(200) by a magnetic material. An insulation

layer(10) is formed by the non-conductive materials such as Al₂O₃ and SiO₂ and the holes(10') is formed on the position matching to the source electrode. The carbon nanotubes(100) is vertically grown on the source in the hole by a CVD method, an electrophoresis method or a mechanical pressing method. A non-conductive thin film(30) is deposited on the insulation layer to bury the holes. A drain electrode(50) is formed on the non-conductive thin film and the carbon nanotubes by the magnetic material.

CHOSEN-DRAWING: Dwg.1/10

TITLE-TERMS: VERTICAL NANO SIZE CARBON MANUFACTURE METHOD

DERWENT-CLASS: L02 L03 U11 U13

CPI-CODES: L02-H04B; L03-D01;

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